

S/N 08/903486

PATENT



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Leonard Forbes et al.	Examiner:	Donghee Kang
Serial No.:	08/903,486	Group Art Unit:	2811
Filed:	July 29, 1997	Docket:	303.326US1
Title:	SILICON CARBIDE GATE TRANSISTOR		

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

**RECEIVED**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

NOV 06 2003  
Technology Center 2100

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 19-0743.

11/05/2003 RADDF01 00000104 08903486

01 FC:1806

180.00 DP

**RECEIVED**  
NOV 13 2003  
TECHNOLOGY CENTER 2800



The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

RECEIVED

NOV 06 2003

Technology Center 2100

Respectfully submitted,


LEONARD FORBES ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
(612) 373-6973

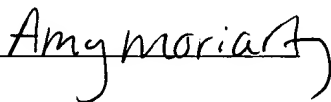
Date 31 October 2003

By

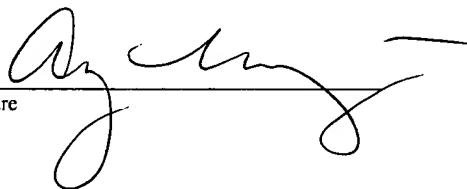
  
Robert E. Mates  
Reg. No. 35,271

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 31<sup>st</sup> day of October, 2003.

Name



Signature



RECEIVED  
NOV 13 2003  
TECHNOLOGY CENTER 2800

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number 08/903486

Filing Date July 29, 1997

First Named Inventor Forbes, Leonard

Group Art Unit 2811

Examiner Name

Kang, Donghee

RECEIVED

NOV 06 2003

Sheet 1 of 3

Attorney Docket No: 303.326US1 Technology Center 2100

**US PATENT DOCUMENTS**

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-4,118,795	10/03/1978	Frye, R. C., et al.	365	222	08/27/1976
	US-4,384,349	05/17/1983	McElroy, D J.	365	185.02	06/02/1980
	US-4,598,305	07/01/1986	Chiang, A., et al.	357	23.7	06/18/1984
	US-4,816,883	03/28/1989	Baldi, Livio	357	23.5	06/22/1987
	US-4,897,710	01/30/1990	Suzuki, A., et al.	357	71	08/18/1997
	US-4,980,303	12/25/1990	Yamauchi, T.	437	31	08/18/1988
	US-4,994,401	02/19/1991	Ukai, Y.	437	40	03/26/1990
	US-5,189,504	02/23/1993	Nakayama, S., et al.	257	422	01/30/1992
	US-5,317,535	05/31/1994	Talreja, Sanjay S., et al.	365	185	06/19/1992
	US-5,360,491	11/01/1994	Carey, P G., et al.	136	256	04/07/1993
	US-5,366,713	11/22/1994	Sichanugrist, P., et al.	423	346	05/28/1993
	US-5,388,069	02/07/1995	Kokubo, Masaya	365	185	03/18/1993
	US-5,409,501	04/25/1995	Zauns-Huber, R., et al.	8	94.29	07/06/1992
	US-5,424,993	06/13/1995	Lee, Roger R., et al.	365	218	11/15/1993
	US-5,425,860	06/20/1995	Truher, J. B., et al.	204	192.23	04/07/1993
	US-5,438,544	08/01/1995	Makino, Takami	365	185	01/28/1994
	US-5,441,901	08/15/1995	Candelaria, J.	437	31	06/10/1994
	US-5,467,306	11/14/1995	Kaya, Cetin, et al.	365	185.2	10/04/1993
	US-5,493,140	02/20/1996	Iguchi, Katsuji	257	316	06/21/1994
	US-5,623,160	04/22/1997	Liberkowsky, J. B.	257	621	09/14/1995
	US-5,672,889	09/30/1997	Brown,	257	77	
	US-5,828,101	10/27/1998	Endo, K.	257	330	03/25/1996
	US-5,861,346	01/19/1999	Hamza, A., et al.	438	869	07/27/1995
	US-5,912,837	06/15/1999	Lakhani,	365	185.02	10/28/1996
	US-6,031,263	02/29/2000	Forbes, L., et al.	257	315	07/29/1997
	US-6,100,193	08/08/2000	Suehiro, S., et al.	438	685	09/24/1997
	US-6,307,775	10/23/2001	Forbes, L., et al.	365	185.01	08/27/1998
	US-6,309,907	10/30/2001	Forbes, L., et al.	438	108	08/21/1998
	US-6,365,919	04/02/2002	Tihanyi, J., et al.	257	77	07/11/2000

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
	JP-60-024678	02/07/1985	Akio, Nakatani	G06 K	9/36	

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS****EXAMINER****DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

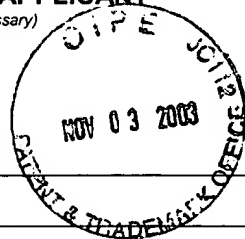
\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. † Applicant's unique citation designation number (optional) ‡ Applicant is to place a check mark here if English language Translation is attached

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Complete if Known

<b>Application Number</b>	08/903486
<b>Filing Date</b>	July 29, 1997
<b>First Named Inventor</b>	Forbes, Leonard
<b>Group Art Unit</b>	2811
<b>Examiner Name</b>	Kang, Donghee

**RECEIVED**

NOV 06 2003

Technology Center 2100

Sheet 2 of 3

Attorney Docket No: 303.326US1

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BELTRAM, F. , et al., "GaAIAs/GaAs Floating-Gate Memory Devices with Graded-Gap Injector Grown by Molecular-Beam Epitaxy", <u>IEEE Transactions on Electron Devices</u> , 35, Abstract No. VA-7, (Dec. 1988), 2451	
		BELTRAM, F. , et al., "Memory phenomena in heterojunction structures: Evidence for suppressed thermionic emission", <u>Appl. Phys. Lett.</u> , 53(5), (1988), pp. 376-378	
		BOERINGER, DANIEL W. , et al., "Avalanche amplification of multiple resonant tunneling through parallel silicon microcrystallites", <u>Physical Rev. B</u> , 51, (1995), 13337-13343	
		EDELBERG, E. , et al., "Visible Luminescence from Nanocrystalline silicon films produced by plasma enhanced chemical vapor deposition", <u>Appl. Phys. Lett.</u> , 68, (1996), 1415-1417	
		HYBERTSEN, MARK S. , "Absorption and Emission of Light in Nanoscale Silicon Structures", <u>Phys. Rev. Lett.</u> , 72, (1994), 1514-1517	
		KATO, MASATAKA , et al., "Read-Disturb Degradation Mechanism due to Electron Trapping in the Tunnel Oxide for Low-voltage Flash Memories", <u>IEEE Electron Device Meeting</u> , (1994), 45-48	
		LIN, B. , et al., "Dramatic Reduction of Sidegating in MODFET's", <u>IEEE Transactions on Electron Devices</u> , 35, Abstract No. VA-6, (1988), pg. 2451	
		LOTT, J. , et al., "Anisotropic thermionic emission of electrons contained in GaAs/AlAs floating gate device structures", <u>Appl. Phys. Lett.</u> , 55(12), (1989), pp. 1226-1228	
		LOTT, J. A. , et al., "Charge Storage in InAlAs/InGaAs/InP Floating Gate Heterostructures", <u>Electronics Letters</u> , 26, (July 5, 1990), 972-973	
		MOHAMMAD, S. N. , et al., "Emerging Gallium Nitride Based Devices", <u>Proceedings of the IEEE</u> , 83, (Oct. 1995), 1306-1355	
		NAKAMURA, J. , et al., "CMOS Active Pixel Image Sensor with Simple Floating Gate Pixels", <u>IEEE Transactions on Electron Devices</u> , 42, (1995), 1693-1694	
		NEUDECK, P. , et al., "Electrical Characterization of a JFET-Accessed GaAs Dynamic RAM Cell", <u>IEEE Electron Device Letters</u> , 10(11), (1989), pp. 477-480	
		QIAN, Q. , et al., "Multi-Day Dynamic Storage of Holes at the AlAs/GaAs Interface", <u>IEEE Electron Device Letters</u> , EDL-7(11), (1986), pp. 607-609	
		RUSKA, W. S. , "Microelectronic Processing", McGraw-Hill Book Co., (1987), 281	
		SCHOENFELD, O. , et al., "Formation of Si Quantum dots in Nanocrystalline silicon", <u>Proc. 7th Int. Conf. on Modulated Semiconductor Structures</u> , Madrid, (1995), 605-608	
		SHARMA, B. , et al., "Heterojunction Devices", In: <u>Semiconductor Heterojunctions</u> , Pergamon Press, New York, (1974), pp. 133-137	
		STREETMAN, B. , In: <u>Solid State Electronic Devices</u> , 4th Edition, Prentice Hall, New Jersey, (1995), pp. 217-219, 392-394	
		SZE, S. M. , In: <u>Physics of Semiconductor Devices</u> , Wiley-Interscience, New York, (1969), p. 496-497	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

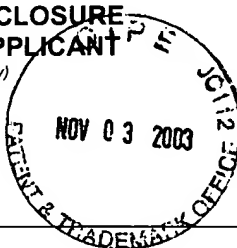
\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional) <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Complete if Known

Application Number 08/903486

Filing Date July 29, 1997

First Named Inventor Forbes, Leonard

Group Art Unit 2811

Examiner Name Kang, Donghee

**RECEIVED**

NOV 06 2003

Technology Center 2100

Sheet 3 of 3

Attorney Docket No: 303.326US1

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		SZE, S. M., In: <u>Physics of Semiconductor Devices. 2nd Edition</u> , John Wiley & Sons, New York, (1981), pp. 122-129, 700-703, 708-710, 763-765	
		TSU, RAPHAEL, et al., "Slow Conductance oscillations in nanoscale silicon clusters of quantum dots", <u>Appl. Phys. Lett.</u> , 65, (1994), 842-844	
		TSU, R., et al., "Tunneling in Nanoscale Silicon Particles Embedded in an a-SiO <sub>2</sub> Matrix", <u>Abstract, IEEE Device Research Conference</u> , (1996), pp. 178-179	
		WOLF, S., <u>Silicon Processing for the VLSI Era, Vol. 3</u> , Lattice Press, Sunset Beach, CA, (1995), 311-312	
		YE, QIU-YI, et al., "Resonant Tunneling via Microcrystalline-silicon quantum confinement", <u>Physical Rev. B</u> , 44, (1991), 1806-1811	
		ZHAO, X., et al., "Nanocrystalline Si: a material constructed by Si quantum dots", <u>1st Int. Conf. on Low Dimensional Structures and Devices</u> , Singapore, (1995), 467-471	

**EXAMINER****DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional) <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached